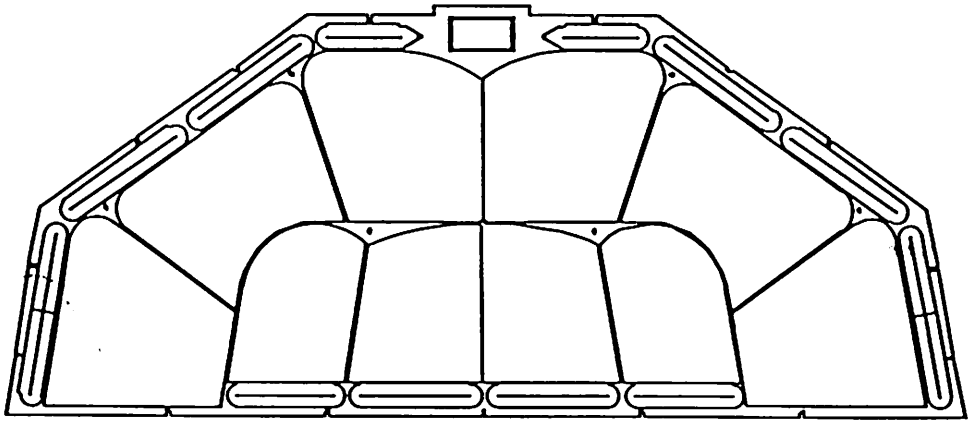
trapKAT Manual

with Version 2.0 Guide



Alternate Mode Inc.
Rev. 5/98

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1. Introduction.

Welcome to the trapKAT! Congratulations on your purchase! You have purchased a product that is an outgrowth of our legendary drumKAT family of controllers. The drumKAT family has grown in power and features over the last 5 years. The trapKAT is a step up in size, layout, and number of playing surfaces.

With a playing area that is 3.5 times bigger than that of the drumKAT, the trapKAT is truly a BIG MIDI Controller, giving you the ability to "spread out" your playing. However, being one-piece, with 10 large FSR pads and 14 convenient FSR rim sensors, transport and system set up is a snap, with very few cables to connect. Simply plug in a hatKAT, a fatKAT, and a MIDI cable to your sound source and start playing!

The trapKAT you have purchased will grow over the years. As better sound sources become available, we will respond with ways for you to have even more control over your music. The trapKAT will continually grow in response to your changing needs.

With Alternate Mode's continuing War On Obsolescence, all of our customers enjoy continual growth in their purchases because of our upgrade releases.

Right now we are working on future features and capabilities for your trapKAT. (You've probably noticed the various editing names that are already molded into the pads - SCREEN TYPE, SCREEN ADVANCE, ETC. - these are there for when you upgrade to trapKAT PRO !) We tell you this so you'll know that as the trapKAT evolves even further in the years to come - **our future innovations will be available to you too!** We won't forget you!

UNPACKING:

When you unpack your trapKAT, you should find the following:

1 trapKAT 24 Surface controller	1 locking AC Adaptor
1 KF1 footswitch	1 MIDI Cable
A 5/64" Allen wrench	1 manual

REGISTRATION CARD:

You also will find a registration card enclosed in your manual. **Please fill it out and send it in** so we can keep track of you for product updates and new product information.

MOUNTING:

The simplest and most elegant mounting solution for the trapKAT is the stylish and attractive "trapKAT Stand". Designed specifically for the trapKAT, this stand sets up quickly and provides a stable mount for the trapKAT.

Another choice is the 550 stand. This practical stand folds up compactly for easy transport.

Using two of the optional **DKB mounting brackets**, the trapKAT can be mounted on a variety of KAT drum stands and stand parts. The DKBs mount to the bottom of the trapKAT with 4 (1/2" x 10/32") screws. Consult our latest KATalog or your dealer. Where and how you mount your trapKAT is largely a matter of personal taste.

CASES: A special trapKAT case, which will hold your sticks, a footswitch, a hatKAT, and a fatKAT, is also available . (Remember the life of your instrument will reflect the care that you give it. If you choose not to use a case in transit, the trapKAT may get damaged.)

OPTIONAL ACCESSORIES and OTHER KAT PRODUCTS:

TKC - trapKAT Case
TS - trapKAT Stand
DKB - KAT Controller Mounting Bracket
AC Adaptors - European & U.S.
Assorted stands and stand parts
KF1 - Single Footswitches
KF3 - Triple Footswitch
Breath Controller
CD Rom Library of exceptional drum and percussion samples
MIDI Quick Notes - Quick reference guide for chords
Instructional Videos
KAT Players Videos
KAT T-shirts
KAT Tour Jackets

Trigger Pads...

- poleKAT - dual-zone FSR Pad
- rimKAT - dual-zone FSR Pad
- flatKAT - single and dual-zone Pads
- proPAD - multi-zone FSR Pad

Trigger Pedals...

- fatKAT - self contained bass drum trigger pedal
- hatKAT - HiHat / Controller padal
- miniKICK - compact bass drum trigger Pad
- kicKAT - bass drum trigger Pad for real acoustic feel

Other Controllers...

- malletKAT PRO - MIDI Mallet Controller (3 to 5 Octaves)
- malletKAT PRO With Sounds - Includes internal sound card of over 350 incredible percussion and orchestral samples
- drumKAT - Advanced 10 pad controller, w/trigger inputs, 32 Channel MIDI, powerful pad control modes
- dK10 - Simple to use, responsive 10 FSR pad controller

PRODUCT OVERVIEW: The trapKAT is a velocity sensitive MIDI Controller with a spacious layout that is comfortable for drummers and percussionists. The playing surface responds to a wide dynamic range and has a great feel and rebound. The 24 playing surfaces consist of 10 large playing pads and 14 "poleKAT-style" zones that are played with the shoulder of your stick (like the rim of an acoustic drum). This allows you to physically spread out your playing area. With a variety of stand mounting options and accessories, the set up and transport of your full trapKAT Kit is as easy as it is convenient.

The trapKAT has FactoryKits and UserKits. In the FactoryKits, there are 24 Kits with a variety of layouts and that will give you instant access to the sounds of any General MIDI sound source. It may be weeks before you have a reason to leave the FactoryKits!
Once you try the UserKits, you will find that making personalized KITs to access the sounds you want, in the layouts most comfortable for you, to be a total breeze!

You will find that the infectuous Melodic and Percussive Grooves are a great practice tool. These built-in Grooves are fun patterns of bass, chords, and percussion that pull you in to play along. Since you can now play with headphones, you are now able to practice when literally everyone else has gone to sleep.

There are four footswitch inputs. One footswitch is used to quickly select any of the 24 KITs. The second is used to change (edit) the NOTE (or sound) assigned to each of the 24 pads. The third footswitch is used to change (edit) other KIT settings like the Channel, Velocity response, Gate Time, Program Changes, and HiHat selections. The fourth footswitch accesses a variety of GLOBAL settings; such as MIDI Merge, training the trapKAT to your personal playing style, and Data Dumps to save your KITs.

The Bass input expects a bass drum trigger input from a kicKAT, fatKAT, or miniKICK. The HiHat input expects positional information from a hatKAT control output or a footswitch. A Breath Control input works with the BC-2 Breath Controller. The trapKAT comes with a locking AC Adaptor.

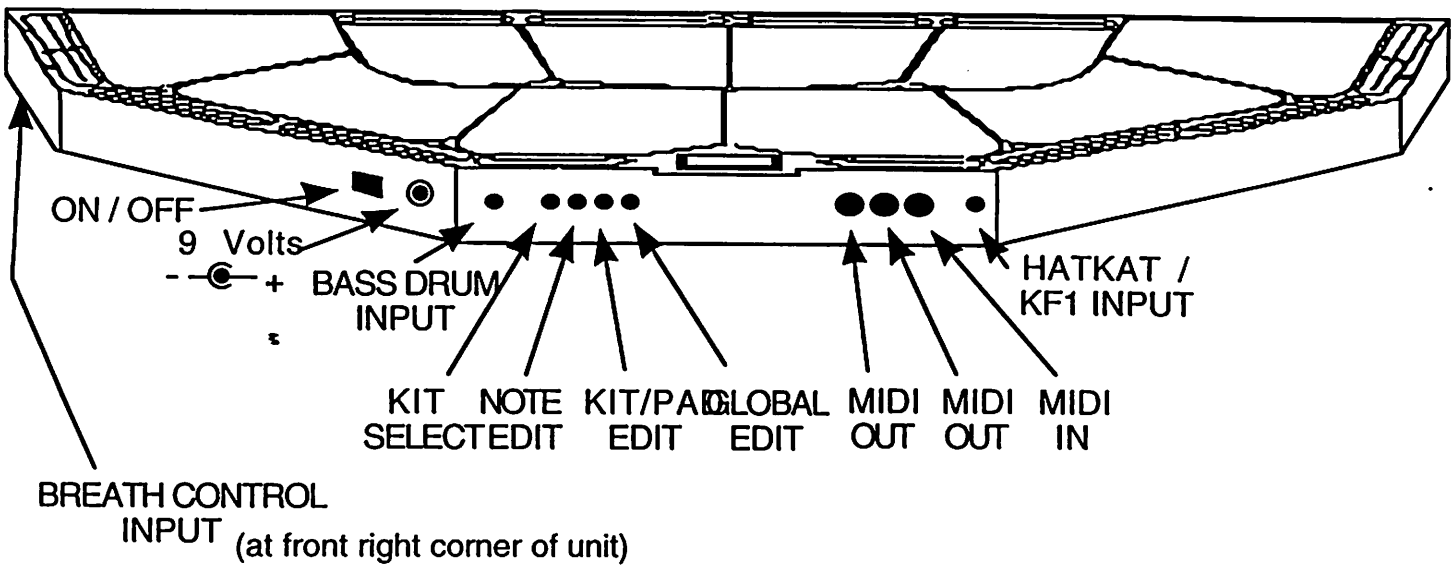
There is one MIDI IN jack and a pair of MIDI OUT jacks. The MIDI OUT jacks are the means by which your trapKAT can control one or more sound sources. Also, the MIDI OUT jacks allow you to "dump" your internal trapKAT settings, or data, to an external MIDI disk or a computer. The MIDI IN jack allows the trapKAT to receive "DataDumps" of internal settings, that you may have saved to an external MIDI disk drive, back into your trapKAT. The MIDI IN jack also allows you to "merge" information from another controller (such as a malletKAT, drumKAT, or dK10) into the data stream that comes out of your trapKAT to your sound source.

The trapKAT has a backlit display with two lines of sixteen characters per line. The viewing angle of the display is adjustable. The display makes the simple editing procedures even easier by giving clear information about the changes as you make them.

The trapKAT was conceived to answer the drummer/percussionist's need for a compact, yet BIG, MIDI Controller, that is easy to set up and responsive to play. It will open up entirely new ways of thinking about your playing.

Keep in touch with us, because your trapKAT will have several upgrade options that you will find as exciting as the original purchase of the trapKAT itself! (The editing names on your playing pads - although not used now - will be used when we upgrade to trapKAT PRO). In the meantime, have a great time playing and creating with your new trapKAT!

2. Connections.



POWER:

The trapKAT comes supplied with a removable, locking AC Adaptor to connect the trapKAT into a 110V outlet. (AC Adapter specifications - 9 to 12V, positive tip (2.1 mm), 400 mA or greater.) An optional European AC Adaptor (for 220V/240V operation) is also available.

After you have connected the AC Adaptor from the trapKAT to a clean power source, switch on the power switch on the back right of the instrument. If your instrument does not turn on refer to the troubleshooting section in the Appendix.

FOOTSWITCHES:

There are four footswitch inputs. One KF1 is supplied with your trapKAT - plug it into the Kit Select input. If you plan on doing much editing (changing settings in your Kits), you should consider a KF3 triple footswitch in addition. If you do have a KF3 triple footswitch as well, plug it into the remaining 3 footswitch inputs on the trapKAT. KAT KF1 and KF3 footswitches can be plugged and unplugged and moved to other inputs with the power on.

If you are not using KAT footswitches, plug in the footswitch *before* turning on the trapKAT. The trapKAT will read the type of footswitch on power-up and automatically adjust for the type you have.

MIDI IN:

The trapKAT has one MIDI IN jack to receive MIDI information from another controller, a sequencer, or a computer. The trapKAT can block or merge this information into the trapKAT's MIDI OUT jacks.

Saved DataDumps of your Kits can be received back into the MIDI IN of your trapKAT from external MIDI Data Disks or Computers.

If you are a newcomer to electronic drums, you very likely will not use this input much.

MIDI OUT:

The trapKAT has two MIDI OUT jacks. These jacks carry identical information, giving you cabling options. The MIDI OUT sends Note & Control information from the trapKAT, merged with information from MIDI IN (if merging is ENABLED (see p.28)).

Connect a MIDI cable from one of the MIDI Outs of the trapKAT into the MIDI In of your sound source.

BASS INPUT:

You may connect a variety of triggering sources including the kicKAT, fatKAT, & miniKICK foot triggers from KAT. You "TRAIN" the trapKAT for whatever type of trigger you have plugged into the BASS Trigger Input. The BASS Trigger is "Trained" in the same way as the pads (see p.25-27). The BASS INPUT has a separate "GAIN" that is selectable in GLOBAL EDIT - see p.27. The BASS INPUT can be assigned to any MIDI NOTE or CHANNEL in the same way that the pads are assigned (see p.15-16).

HIHAT INPUT:

The HiHat will accept either a footswitch (KF1 or KF3) or a hatKAT foot controller (connected from the hatKAT Control output with a standard 1/4" shielded cable). The main use of this input is for HiHat control. The Chick or Foot sound of the HiHat is generated from this input. In addition, the selection of Open or Closed sounds on any HiHat Pads is controlled by the position of what is plugged in here. If a hatKAT is plugged in here, you can have continuous control from Closed to Open in many of the current sound sources.

The actual training of the hatKAT pedal is explained on p.24.

BREATH CONTROL INPUT:

The Breath Control input accepts a signal from the Yamaha BC2 Breath Controller.

A Global setting allows Pitchbend, Expression, or Sustain to be selected for the Breath Controller. This allows you to bend notes with your mouth! See p.46.

3. MAKING A SOUND - FactoryKits.

The simplest way to get your trapKAT up and running is to get into the FactoryKits. If you are not already connected and powered-up, do the following:

- Connect a KF1 footswitch into KIT SELECT footswitch input. This footswitch moves you around in the FactoryKits.
- Connect a MIDI cable from either of the two MIDI OUTs in the back of the trapKAT and connect the other end of the cable into the MIDI IN on your sound source.
- Connect the AC adaptor plug into the power input on your trapKAT. Screw the AC adaptor retention ring firmly onto the receptacle on the back of the trapKAT. Plug the AC adaptor into a wall socket and turn the power on the trapKAT on.

Your display will tell you whether you are in Factory Kits or User Kits:

FactoryKit: 01 MG: Marimba 120

OR

UserKit: 01 PG: Clave 112

If the screen says you are in UserKits, then do the following to get the trapKAT into the FactoryKits:

1. Move the KAT KF1 footswitch into the "GLOBAL EDIT" footswitch input.
2. Depress the GLOBAL EDIT footswitch and *while it is depressed,* hit pad number 1 (middle-left of trapKAT). The display will say:

Hit Pad Again To SelectFactoryKit

3. Keep the GLOBAL EDIT footswitch down and hit pad 1 again.
4. Release the GLOBAL EDIT footswitch. You are now in FactoryKits.

FactoryKits:

- The last remaining thing you may need to do to get yourself set up is to get your sound source responding. Plug headphones into your sound source and play on your trapKAT. If your sound source is any of the following MIDI sound sources, it should now easily work with the trapKAT.

MIDI sound sources that the trapKAT should instantly work with:

Alesis D4	Korg 05R/W
Boss DS330, DR550, DR660	Roland TD5, TD7, R8Mk2, Sound Canvass
E-mu Procussion (FactoryKit 23)	Yamaha TMX, RY30 (FactoryKit24 -Channel 1)
Kawai GMega	

(If your sound source is not responding when you play on the trapKAT, refer to p.34. Appendix 1 "What If It Doesn't Work?")

Your trapKAT display will say:

FactoryKit: 01 **MG: Marimba 120**

Whenever you are not depressing any of the footswitches, playing on your trapKAT will cause the correct MIDI commands to be sent out to ***play*** your sound source.

When you hold down any of the footswitches and hit any of the pads, you will be accessing and changing settings in your trapKAT. Making changes to the settings in the trapKAT is called "editing" your trapKAT settings. You'll learn about editing in Chapter 5 "Editing - UserKits". Until then, enjoy playing on your trapKAT and selecting different FactoryKits.

KIT 01 is a basic drumset layout (right-handed - for left see KIT11). A KIT is a collection of MIDI settings for all your Pads and triggers.

Hold down the KIT SELECT footswitch and hit Pad 2, *while* the KIT SELECT footswitch is depressed. The trapKAT advances to KIT 2. KIT 2 is an alternate drumset layout. Note the positions of the HiHat and cymbals have been rearranged.

To select different KITs, hit any of the 24 pads, *while* the KIT SELECT footswitch is depressed. Now, spend some time trying the 24 FactoryKITs. Notice that some KITs (like KIT03) have entirely different sounds selected than other Kits. Other KITs, like KIT01 and KIT02 have the same sounds in different layouts. Have fun!

(As an added convenience, for the occasional times when your sound source may have a "stuck note" (sustaining forever), simply depress the **KIT SELECT footswitch** and **hold any pad** for 1 second. A series of **ALL NOTES OFF** commands will be sent to quiet the stuck note.)

If you **hold down a pad *without* any footswitch** depressed, you sustain the note of that pad.

(Kit 23 is designed specifically to get you running on the E-mu Procussion®, and Kit 24 is designed to get you running on the Yamaha RY-30®.)

4. Playing a GROOVE.

If your best friend is a Bass player and likes to practice any time you want, then these Grooves won't be of much interest to you. If instead, you have a hard time finding someone to practice with, when you want, Grooves are the next best thing. These patterns were recorded simply to be fun to play along with.

In FactoryKits and optionally in UserKits (see p.28) the rimPads 15, 16, 23, and 24, are used to control the GROOVES.

- The **PERCUSSIVE GROOVES** (selected by rimPad 16) use only drum and percussion sounds. Therefore they will **work with almost any sound source.**

- The **MELODIC GROOVES** (selected by rimPad 15) will play on any **GENERAL MIDI** sound module. The Melodic Grooves have more happening in them (than the Percussive Grooves) because we had a variety of sounds to use in making them.

- If your sound source is any of the following GENERAL MIDI devices, your trapKAT's MELODIC GROOVES should play well.

General MIDI devices that the trapKAT MELODIC GROOVEs will instantly work with:

Boss DS330
Kawai GMega
Korg 05R/W
Roland R70, Sound Canvas

Your trapKAT playing display says something like:

FactoryKit: 01 MG: Marimba 106

The "MG" means Melodic Groove. The bottom line tells you what Groove is currently selected and what Tempo it is playing at.

GROOVE START/STOP:

To start a selected GROOVE, hit START/STOP (rimPad 24). To stop the GROOVE, hit rimPad 24 again.

You can call up one of many choices of MELODIC GROOVES (rimPad 15) or PERCUSSION GROOVES (rimPad16).

MELODIC GROOVE SELECT:

Hit rimPad 15 and see:

FactoryKit: 01 MG: Funky Flute 120

Hit rimPad 15 again and see:

FactoryKit: 01 MG: Rocker 120

PERCUSSIVE GROOVE SELECT:

Hit rimPad 16 and see:

UserKit: 01 PG: Clave 112

The "PG" means Percussive Groove. Each time you hit rimPad 15 or 16, the currently selected Groove is changed. If a Groove is playing and either of the left-corner rimPads (15 or 16) is hit, the newly selected Groove will start playing at the top, with the Tempo it is set to start out with.

GROOVE TAPTEMPO:

To change the tempo of any Groove, simply hit TAP TEMPO (rimPAD23) twice at a quarter note of the tempo you want. The display will tell you what tempo those quarter notes were and the GROOVE will immediately start playing at that tempo (as long as it is between 40 and 240 beats per minute.)

UserKit: 01 PG: Clave 96

Even this little TapTempo Pad can be a fun practice aid - helping you work on your perception of real-time tempos. You can practice difficult licks and fills with the tempo slowed down and as your skill increases you can speed the tempo up to keep challenging yourself.

The Note that is played when you hit theTapTempo rimPad can be adjusted in the same way as the other pads (see p.15-20). The difference here is that the settings for the Tap Tempo pad are Global - meaning whatever sound you select for the Tap Tempo pad is used by all Kits.

GROOVE VOLUME:

You may adjust the Volume of your Melodic and Percussive Grooves relative to the Volume of your playing on your Kits. To access the Volume of your Grooves, simply depress the GLOBAL EDIT footswitch and hit **Pad9**. Successive hits of Pad9 will raise the Groove Volume. The range of values is 0 to 10.

"Quick-click" the GLOBAL EDIT footswitch to decrease the Global Groove Volume. To "quick-click", while editing, means to release the footswitch and quickly redepress it. The beeping will change to indicate that you are now decrementing. (A second "quick-click" will return you to incrementing.)

5. Editing KITs - UserKits.

Making changes to the settings (editing) in your trapKAT is easy. The changes you can make range from changing the sounds (NOTEs) your pads make, changing the way your pads respond to your playing dynamics, to training how your HiHat pedal responds. In this Chapter, you'll see how to change all the settings in your UserKITs.

EDITING OVERVIEW: All editing uses the same simple method:

1. **Press a footswitch** to let the trapKAT know that you want to edit or change something. When changing Notes you will press the NOTE EDIT footswitch. When changing other Kit settings, you will press the KIT EDIT footswitch, etc.
2. **Strike a pad** to let the trapKAT know what you want to change. When changing Note numbers or sounds you will simply strike the pad you want to change.
3. **Continue striking the pad** until your selection is found.
4. **Release the footswitch** to get back to playing. Your changes are automatically saved.

It's that easy! Press a footswitch, hit a pad several times, release the footswitch! This is the method that you will use to edit or change any setting in your trapKAT. Most of your editing will be with the NOTE EDIT footswitch. To *decrease* a value, perform a "quick-click" - (explained on p.15).

Now for the specifics:

EDITING FactoryKits:

Editing can be done in FactoryKits or in UserKits. Any changes to GLOBAL settings (Chapter 7) are permanent, regardless of whether you are in FactoryKits or UserKits. Changes made to KITs in FactoryKits are temporary (you can change settings in your FactoryKits, but only temporarily - the next time you enter the FactoryKit you've changed, it will be back to the way it was before you changed it). Changes made to UserKits are permanent.

Changing NOTE Numbers:

For our first adventure in editing, let's change the NOTE on **Pad1** in **FactoryKIT 1**. (To get into FactoryKits and select FactoryKIT 1, see Chapter 3.)

- Connect a footswitch into the NOTE EDIT footswitch input.
- Depress the NOTE EDIT footswitch, and *while* it is depressed hit Pad1. Pad1 will play and the Note # value (46) assigned to DemoKIT 1, Pad1 is shown on the screen.
- While the NOTE EDIT footswitch is still depressed, hit Pad1 again. Pad1 will play a different sound (or possibly be silent), and the next Note # (45) will appear on the screen.
- Each successive hit, *while* the NOTE EDIT footswitch is depressed, will advance to the next Note #, play it and display it on your trapKAT.

This process lets you quickly run through the available sounds. When you hear one you like for that Pad, stop, and release the NOTE EDIT footswitch. Now, playing on that Pad will produce the sound you wanted. It's that simple!

Since this change was done to a FactoryKit, if you select some other KIT and then comeback to this KIT the change you just made will disappear. Remember, all changes to FactoryKITs are temporary.

COPYING KITs TO A UserKIT:

Often you may like a KIT as it is, except you just want to change a couple of things. This is why we have included a simple KIT COPY feature in your trapKAT. You may copy either a FactoryKit or some other UserKIT into any UserKIT.

KIT COPY will always copy the KIT you are currently in to some other selected KIT. KIT COPY is done using rimPads 15 and 16, when the KIT/PAD EDIT footswitch is depressed.

As an example lets copy the edited version of FactoryKit 1 that we created above into UserKIT 24.

1. Depress the KIT/PAD EDIT footswitch and *while* it is depressed, hit rimPad15. The trapKAT display will say:

Copy Current Kit To User Kit 01

2. Keeping the KIT/PAD EDIT footswitch depressed, hit rimPAD15 repeatedly and you will see the "to UserKIT" value increment with each hit of rimPAD15. So, hit rimPad15 (with KIT/PAD EDIT footswitch depressed). The display will alternate between:

Copy Current Kit To User Kit 01

Pad15 Changes # Pad16 to Copy

3. Now, with the KIT/PAD EDIT footswitch depressed, hit rimPad16...

Copy To User 01? Hit Pad16 Again

4. With the KIT/PAD EDIT footswitch still depressed, hit rimPad16 a second time to verify that you do want to do the copy. The display now says:

Copy Completed To UserKit: 01

You've done it! The KIT has been copied. The trapKAT also switches to UserKits for you to be able to start using your new UserKIT. So when the Copy Completed burst is through you will see:

You Are Now In UserKits!!

Release the KIT/PAD EDIT footswitch to get out of editing and back to playing. Then the display will say:

FactoryKit: 01 MG: Marimba 106

(Doing a KIT Copy isn't the only way to get from **DemoKits to UserKits.** The usual way is using the GLOBAL EDIT footswitch - see p.28.)

EDITING IN UserKits:

The main difference in editing when you are in UserKits is that every **change** you make to a KIT is **permanently saved** in that UserKIT (KIT changes are temporary in FactoryKits).

All changes made to GLOBAL settings (Chapter 7 p.25) are permanently saved (as they are in FactoryKits, as well.)

Now that we are in UserKITs, let's try some of the other KIT/PAD EDIT functions to make changes to your UserKITs. An illustration of the layout of the KIT/PAD Functions is on p.36 in the Appendix. A blank Template for documenting your kits is in the Appendix p.40.

CHANGING THE SOUND:

There are three main settings that affect the sound each pad makes. They are the Channel and Note the pad is assigned to and which Program your KIT selects on your sound source.

The **Channel** will affect what group of sounds the individual Note numbers will select from. On a drum machine, the Channel selects whether or not you get the drum sounds the drum machine has. On a fancy "multi-timbral" sound module, Channel 10 is generally assigned to drum and percussion sounds. The other channels are used to select keyboard and orchestral sounds controlled by the "Program" you select.

The **Programs** select which sub-group of sounds your individual Note #s will select. On a drum machine, Programs select different groups of drum sounds. For example, on most drum machines Note #38 selects a snare drum and Note#36 selects a bass drum - the Program changes *which* snare and bass drum sample you hear for Notes 38 and 36. On a multi-timbral sound module Programs will call up entirely different sounds like strings or horns or percussion.

Changing the Note:

The **Note** is the one KIT setting that is not changed using the KIT/PAD EDIT footswitch. Notes are changed so often that it is given its own footswitch input.

There are two ways to edit your Note settings: 1. Manually selecting the Note, 2. Autotraining through your MIDI In.

Manually selecting the Note or sound per pad was described at the beginning of this Chapter. Simply hold down the NOTE EDIT footswitch and repeatedly strike the pad you want to change until you hear (or see) the sound you want for that pad.

One additional thing to show is how to **decrement** the Note # if you increment too far and want to go back a couple. You can decrement the value by doing a **"quick click"** on the footswitch. To do this while editing, release the NOTE EDIT footswitch. then quickly redepress the NOTE EDIT footswitch (with no pad hit in between) and *then* hit Pad1. This will reverse the process of Note selection. This "quick click" method for reverse works for all of the other editing functions as well. Notice that the beeper sound changes when you go in reverse.

If your drum machine or sound source has buttons to play all of its sounds (and your sound source sends Out MIDI information), MIDI In Auto Load is a convenient way to select Note #s. To try this:

1. Connect another MIDI cable from the MIDI Out of your sound source to the MIDI In of your trapKAT.
2. Then *while* the NOTE EDIT footswitch is depressed, hit the pad you want to change.
3. Push the sound button on your sound source. The Note # corresponding to the sound you just played on your sound source should now appear on your display. If the trapKAT display does not change, check your connections and make sure you keep your foot on the NOTE EDIT footswitch.

Can be used to MIDI In AutoLoad into a trapKAT if set up properly:
(These devices send a MIDI Note out their MIDI Out jack.)

Alesis HR16, HR16B, SR16	Boss DR660
Korg M1, S3, 01R/W	Roland R8,R8MKII,R70
Yamaha RY10, RY30	

Can not be used to MIDI In AutoLoad into a trapKAT:

Alesis D4	Boss DR550, DS330
E-mu Procussion	Kawai GMega, XD5
Roland R8M, TD7	Yamaha RM50

Changing the Channel:

For most applications, you will find that **Channel 10** is the right place to be for drums and percussion.

With the KIT/PAD Edit footswitch depressed, hit Pad1. The display will say:

UserKit: 01 Channel = 10

With the KIT/PAD EDIT footswitch *still* depressed, hit Pad1 again. The Channel advances to 11. Hit Pad1 again and it advances to 12, etc. Pretty simple!

Feel free to try selecting different Channels to see what effect it has on the sound source you are using. As we said earlier, many drum machines only work on Channel 10. Some GENERAL MIDI sound modules will make a different sound on each Channel, with drums and percussion on Channel 10. One difference to this is many of the Yamaha drum machines (like the RY-30) need to receive on Channel 1.

If you want to have your pads on different Channels you can change the Pad Channel by hitting rimPad11. The display will ask which Pad you want to change the value for. Then you proceed as normal to change the Channel for that pad.

If you have pads on different Channels and call up the KIT Channel function (Pad1) the setting will say "**VARIOUS**". Now, simply hit Pad 1 (*while* KIT/PAD EDIT footswitch depressed) again and all pads will be back onto the same Channel.

Changing the Program:

Selecting different **Programs** may give you access to different samples or banks of drum or percussion sounds.

To select a different Program, first verify that you are sending Program Changes on the same Channel that your sound source is expecting to see them on. Typically, for drums or percussion that is Channel 10.

With the KIT/PAD EDIT footswitch depressed, hit Pad7. The screen will say:

UserKit: 01 PrgChng Channel=11

To change the Program Channel just keep hitting Pad 7.

Now, to select different Programs on your sound source, hit Pad8 with the KIT/PAD EDIT footswitch depressed.

UserKit: 01 Prog Change =001

To change this setting, simply continue hitting Pad7 (*while* the KIT/PAD EDIT footswitch is *still* depressed.) Don't forget that "quick-clicking" your footswitch and then hitting a pad, while editing, allows you to decrement values!

CHANGING THE RESPONSE:

There are four main settings that affect the response of each pad. They are Minimum and Maximum Velocity, Velocity Curve, and Volume.

The Min and Max Velocity affect the *range* of how loud or soft an indiviual sound can be. The Velocity Curve affects the feel or how fast the sound gets louder as you smoothly play harder and harder. The Volume affects the overall loudness of every sound on that particular channel.

Changing the Minimum and Maximum Velocity:

A Velocity is sent with each Note or sound that is sent by your trapKAT to your sound source. The Velocity is a measure of how loud, relatively, this sound will play. On your trapKAT the **Minimum Velocity** sets the minimum loudness that the selected Note will play. **Maximum Velocity** sets the maximum loudness that the sound will play.

Typical settings are Minimum Velocity from 16 to 48 and Maximum Velocity from 100 to 127. If your softest hits play too soft, then raise your Minimum Velocity. If your hardest hits are too loud, then reduce your Maximum Velocity.

You have the choice of changing the Minimum or Maximum Velocity for the entire KIT (using Pads 2 & 3) or of changing Minimum and Maximum Velocity independently per pad (using rimPADs 12 &13).

Some examples will make this clear.

First, let's suppose that you want to bring up the bottom end of all your pads - maybe your soft hits are just too soft to cut through. Raise the KIT Minimum Velocity by depressing the KIT/PAD EDIT footswitch and hitting Pad2 until the value is 40:

UserKit: 01 Min Velocity = 040

Release the KIT/PAD EDIT footswitch and play on your pads to see

what effect a higher Mimimum Velocity has.

Now, suppose you like this higher Minimum Velocity on most of the pads but not on Pad3. You can change the Minimum Velocity for Pad3 only by using rimPad12.

Hit rimPad12 *while* the KIT/PAD EDIT footswitch is depressed. The display says:

Hit Pad Again
for Pad Min Vel

So, hit rimPad12 again. Now the display says:

Change Min Vel
on Which Pad ?

So, hit Pad3 so we can change its Minimum Velocity setting.

Pad03
MinVelocity = 040

Pad3 has a Minimum Velocity of 40 like all the other Pads in this KIT. Now, continue to hit Pad3 until its Minimum Velocity is 64.

Pad03
MinVelocity = 064

Without releasing the KIT/PAD EDIT footswitch, hit Pad4. The display will say:

Pad04
MinVelocity = 040

Now you may change the individual setting for Pad4. Hit Pad4 five more times until:

Pad04
MinVelocity = 045

Now release the KIT/PAD EDIT footswitch and play. Notice that all your soft hits are fairly loud - especially Pad03.

Now lets see what your KIT Minimum Velocity looks like. Depress KIT/PAD EDIT and hit Pad2. The display will say:

UserKit: 01
Min Vel= Various

The reason it says "VARIOUS" is because there are individual differences in the Minimum Velocity setting from one Pad to the next. If you now hit Pad2 again, the display says:

UserKit: 01
MinVelocity= 040

If there are various values for Minimum Velocity from pad to pad, the first change hit will cause all the values to be made to be the same as the value for Pad1. Succeeding hits will start to increment all of the Kit's Minimum Velocity values as normal.

Now, if you go look at individual Pad Minimum Velocities again, you will find they are all back at 40.

Now, depress the KIT/PAD EDIT footswitch and hit Pad3.

UserKit: 01 MaxVelocity= 127

Instead of changing the Maximum Velocity for the whole Kit, lets just change the Maximum Velocity for Pad3. We are going to decrease the Maximum Velocity for Pad3; so you will "quick-click" the KIT/PAD EDIT footswitch. Here is the process again:

Depress KIT/PAD EDIT footswitch and hit rimPad13.

Now the display says:

Hit Pad Again for Pad Max Vel

So, hit rimPad13 again. Now the display says:

Change Max Vel on Which Pad ?

So, hit Pad3 so we can change its Maximum Velocity setting.

Pad03 MaxVelocity = 127

Now, release the KIT/PAD EDIT footswitch and quickly redepress it ("quick-click"!). The beeping changes to notify you that you are now decrementing.

Hit Pad3 repeatedly until the value decreases to 90.

Pad03 MaxVelocity = 090

Now, release the KIT/PAD EDIT footswitch and play on the pads. Note that Pad3 doesn't get as loud as the rest.

Use the KIT/PAD EDIT footswitch and Pad3 to make all the pads, in this Kit, have a Maximum Velocity of 127 again.

Changing the Velocity Curve:

The Velocity Curve controls how quickly the Velocity gets louder as you play from soft to hard. The easiest way to understand what that means is to try some of the different Velocity Curves.

So, with KIT/PAD EDIT depressed, hit Pad4. The screen says:

UserKit: 01 VelocityCurve = 1

Hit Pad4 a second time to get:

UserKit: 01 VelocityCurve = 2

Release the KIT/PAD EDIT footswitch and try it out. Velocity Curve 1 is a "linear" curve - the loudness increases in a smooth way from soft to loud. Velocity Curve 2 is different. It stays soft longer as you play harder - until finally it gets louder in a hurry at the top of your dynamic range. Try all of the Velocity Curves. A brief description of each is given below.

As with the other Velocity settings, you can change the settings for all of the pads at the same time (Pad4=KIT Velocity Curve) or for

each pad individually (rimPad14=Pad Velocity Curve).

Velocity Curve 1 - Linear - Smooth from bottom to top.
Velocity Curve 2 - Stays low longer than Linear.
Velocity Curve 3 - Stays low even longer than 2.
Velocity Curve 4 - Slow linear with accent at the end.
Velocity Curve 5 - High minimum, stays low, then accent.
Velocity Curve 6 - Gets up sooner than Linear.

Changing the Volume:

The Volume setting affects the overall loudness of the entire Program of sounds on your sound source. As in other Kit settings, use KIT/PAD EDIT and Pad9 to see:

UserKit: 01
Volume = 96

The range for this setting is 0-127 and "Don'tSend". The reason for Don't Send is that you may not want your Kits to change the Volume settings built into the patches on your sound source and simply play them as they are.

CHANGING THE GATE TIME:

Gate Time is the length of the sound. It is the time between a MIDI Note On and the corresponding MIDI Note Off. On many drum machines, Gate Time has no effect. Many drum machines ignore MIDI Gate Time and simply play the sound to its completion. However, for samplers you may need to change the Gate Time to match the length of the sound you want played.

Hit Pad10 *while* the KIT/PAD EDIT footswitch is depressed and see:

UserKit: 01
GateTime=0.150s

The range for Gate Time is 0.005s (5 milliseconds) to 6.4 seconds. As in the previous settings you may also select separate Gate Times for the pads individually. This is done with rimPad23 or rimPad24.

When you are using sounds that do respond to Gate Times, occasionally some sound sources forget to shut off a note and a note gets "stuck on". Depress the **KIT/PAD EDIT** footswitch and hit **rimPad22** twice and a series of **ALL NOTES OFF** commands will be sent to quiet the note. Also, since you may only have a KIT SELECT footswitch when you are using your trapKAT, you may send **ALL NOTES OFF** commands by depressing the **KIT SELECT** footswitch and **holding down** on any **pad** for 1 full second.

DECREMENTING VALUES:

Remember, if you ever go too far incrementing a value and want to decrement it, do a "quick-click". That is, release the footswitch and quickly redepress it. The beeping will change to indicate that you are now decrementing. (A second "quick-click" will return you to incrementing.)

6. HiHat.

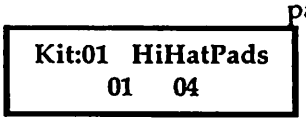
Getting responsive HiHat control is a very important part of any electronic percussion setup. In this Chapter, you will learn how to train your HiHat response, select Note and other KIT settings for Open, Close, Chick, and Splash sounds in your trapKAT. You will also learn how to select different types of Continuous Control information for advanced HiHat control with a hatKAT HiHat pedal. The first topic to cover is how to select a pad to be a HiHat pad.

SELECTING PADS TO BE HIHAT PADS:

When a HiHat pad is played, the Note that is sent out depends on whether the HiHat pedal is depressed or not. If the HiHat pedal is depressed a "Closed" Note will be played. If the HiHat pedal is not depressed, an "Open" Note will be played. The trapKAT needs to know which pads should be controlled by your HiHat pedal position.

To select a pad to be a HiHat pad, do the following:

1. Depress the KIT/PAD EDIT footswitch and hit Pad5. The display will show which pads have been selected to be HiHat pads:



2. If you strike Pad5 a second time the display will show:

The second line is blank because your HiHat pads have been de-selected. The pads you hit next will be your HiHat pads now.

3. If you want to change where your HiHat pads are, hit the pads you want. Or, if you want to keep the HiHats where they were, hit Pad4:

4. Then hit Pad1:

5. Release the KIT/PAD EDIT footswitch.

You may select up to **four** pads to be **HiHat pads** independently in each KIT.

Whenever you change which pad is a HiHat pad, you will often need to change the sounds assigned to that pad to make it really be a HiHat. We'll show that next!

DEFINING SETTINGS FOR OPEN, CLOSED, and CHICK:

Changing the settings for Open, Closed, and Chick sounds is pretty straight ahead. Here's how:

Changing Open Settings:

Editing the Open settings for a HiHat pad is simple. Everything is exactly the same as for a normal pad. For editing Notes use the NOTE EDIT footswitch as described previously. For Channel, Velocities, and Gate Time use the KIT/PAD EDIT footswitch as described previously.

Changing Closed Settings:

Editing the Closed settings is the same as usual with one exception - also have the HiHat pedal depressed when performing the editing functions. An example will make this clear.

To change the Note for the Closed sound do the following:

1. Depress the NOTE EDIT footswitch.
2. Depress the HiHat pedal also.
3. While they are both depressed, hit the pad you want to change the Closed setting for. Since the HiHat is depressed when you struck the pad, you will access the Closed sound for that pad:

Pad6 HCLOS #042
ClsdHiHat

4. If you now hit Pad6 again (with *both* the NOTE EDIT footswitch and the HiHat pedal still depressed), the Note value will increment.
5. To decrement, "quick-click" the NOTE EDIT footswitch as described previously.

To change the other settings, like Channel, Velocities, and Gate Time, use the KIT/PAD EDIT footswitch with the HiHat pedal depressed.

Changing Chick Settings:

To change the Chick (or HiHat foot) settings, do the same editing procedures as normal except simply "Chick" your HiHat pedal instead of hitting a pad. Here's an example:

To change the Minimum Velocity for the Chick sound do the following:

1. Depress the KIT/PAD EDIT footswitch.
2. Close the HiHat pedal and release it to play a Chick. The display will say:

CHICK Note #044
PedlHiHat

3. If you now Chick the HiHat pedal again (with the KIT/PAD EDIT footswitch still depressed), the Note value will increment.
4. To decrement, "quick-click" the KIT/PAD footswitch as described previously.

FOOT CONTROL ASSIGN:

The most advanced HiHat control is available from sound sources that use "Continuous Controller" information to create variable amounts of Closed for a HiHat. This permits your HiHat pads to not just be Open or Closed, but to play sounds that vary *continuously* from Open to Closed. As you move your hatKAT pedal the trapKAT sends a stream of information to the sound source about the changing position of the HiHat pedal. Then, when an Open sound is played from a pad, the sound source will be able to play a sound that varies with the actual amount that the pedal is closed.

As of the writing of this manual, the sound sources capable of responding to this Continuous Controller information include the Roland TD7® & TD5® (wants Control 04) and the E-mu Procussion® (wants Control 01 "out of the box", but can be changed to respond to Control 04). Undoubtably more of the newer devices will have this feature - feel free to call us and check out the state of the industry at the current time.

If your sound source does respond to Continuous Control for HiHat, the way to access this feature in your trapKAT is as follows:

1. Depress the KIT/PAD EDIT footswitch.
2. Hit rimPad18. The display will say:

HiHat Continuous Control = 04

3. If you now hit rimPad18 again the setting will run through the choices of **01**, **None**, and back to **04**.

Generally, if you are using Continuous Controller HiHat, you will use it on Channel 10. However, if you have more than one device that responds to Continuous HiHat control (both an E-mu Procussion® and a TD7®, for example), you will need to change the **Foot Control Channel** in each Kit if you want to access the two sound sources separately per Kit. This is done by hitting **rimPad17** *while* depressing the **KIT EDIT** footswitch. The choices for Foot Control Channel are Channels 1 through 16 and "Same As Chick". "Same As Chick" is the standard setting for most applications. With this setting, the FootControl Channel will always match whatever you select for the Chick sound.

If your device does not respond to Continuous Control information for HiHat control, you may choose to turn this setting **OFF**. This will decrease the amount of information sent out of your trapKAT to your sound source. If you leave this setting on 01 or 04, no harm will come to sound sources that don't respond to it. It'll be like junk mail that you ignore and throw out when bring in the days mail - it doesn't really affect the mail you do want to read.

TRAINING YOUR HIHAT PEDAL:

When you received your trapKAT it should come preset with the appropriate settings for optimum use of either a hatKAT or a footswitch into your HiHat input (Re-init should set up these settings properly as well.) However, if your settings inadvertently get changed, you are using a pedal other than a hatKAT, or you just want to try retraining for your specific pedal, do the following:

1. Depress the GLOBAL EDIT footswitch.
2. Hit rimPad17. The display will say:

Hit Pad Again to Do HiHat Train

3. Hit rimPad17 again. Now beeper goes on and display says:

Depress Pedal then Hit Any Pad

4. So, depress the HiHat pedal and *while the HiHat pedal is depressed*, hit rimPad17. The beeper will change and the display will say:

Release Pedal then Hit Any Pad

5. So, let up on the HiHat pedal and *while the HiHat pedal is released*, hit rimPad17. The display will say:

Hi Hat Pedal Train Complete!

That's it! You've trained your HiHat pedal!

DEFINING SETTINGS FOR SPLASH:

To edit the Splash settings involves a little more.

To edit the **Splash Note #**, simply hit **Pad6** repeatedly with the **KIT/PAD EDIT** footswitch depressed. The rest is then the same.

The Splash Channel, Minimum Velocity, Maximum Velocity, Velocity Curve, and Gate Time, are all determined by the settings of the Chick (see p.22).

The "Ease" of Splash occurring can be "Adjusted" by hitting **Pad6** with the GLOBAL EDIT footswitch depressed.

7. Editing Global Settings.

Making changes to the GLOBAL settings in your trapKAT is just as easy as the changes to your KIT/PAD settings that you have learned in the previous Chapters. The GLOBAL changes you can make range from adjustments to the response of your pads, to Preferences like FactoryKits/UserKits and turning the beeper off. An illustration of the layout of the GLOBAL Functions is on p.37 in the Appendix.

ADJUSTING RESPONSE OF PLAYING PADS:

Everyone's playing style is different from everyone else's. Some players play with a much lighter touch than others. Because of this, the trapKAT allows you to "train" your own personal *dynamics*. Dynamics are your range between hard and soft hits. As well as training for your dynamics, you can also adjust the sensitivity of your playing pads to suit your style.

Pad Train:

"Training" your pads consists of telling the trapKAT what a soft hit and a hard hit are in your playing style. If you are a finesse player, your hard hit may only be a medium hit for a basher. One set of settings aren't appropriate for both of you because when you play through your personal dynamic range from soft to hard, you need to get a full range of volume out of the sounds you are playing - not just soft to medium loudness.

To train the trapKAT for your playing dynamics, do the following:

1. Depress the GLOBAL EDIT footswitch.
2. Hit rimPad11. The display will say:

Hit Pad11 Again to Train Pads

3. Hit rimPad11 again. The beeper turns on & the display says:

Hit a Pad Softly

4. Hit a Pad (or Bass Trigger) softly. Don't try to do the softest hit imaginable - do what <u>you</u> typically use as a soft hit in normal playing. The screen says (if you had hit Pad1, for example):

Hit Pad 01 Hard

5. So hit the same pad again, this time hard. Don't smash it as hard as you can - do what <u>you</u> would typically use in normal playing. Then the screen will say:

Pad 01 is Trained!

6. Then the display will say:

Hit a Pad Softly or Ftsw To Leave

So, either hit some other pad softly to Train it, or release the GLOBAL EDIT footswitch to get back out of training.

The pads are all trained individually because of their varied locations, uses, and types (regular pads vs. rimpads). So train any that don't respond the way you would like. Feel free to experiment with different levels of soft and hard hits. This training, together with the Velocity Curve you use has a significant effect on the "naturalness" of the dynamic response of your trapKAT.

Pad Threshold:

The training does not affect your bottom end sensitivity - or how light of a hit your trapKAT may pick up. The **Threshold** is the setting that affects how sensitive your pads are. The lower the value the more sensitive that particular pad will be. However, if you make the Threshold too low that pad may trigger itself.

Before you actually start adjusting your Thresholds, make sure that your Minimum Velocity is high enough for you to hear your soft hits (see p17-18). In some noisy environments (and with some sound sources) Minimum Velocities of 40 or higher may be necessary. If your Minimum Velocity is 02, the trapKAT may be picking up your soft hits, but playing them too *softly* for you to hear them.

To see and adjust the Threshold of any of your pads do the following;

1. Depress the GLOBAL EDIT footswitch.
2. Hit rimPad12. The display will say:

Hit Pad Again for PadThreshold

3. Hit rimPad12 again. The display says:

Change Threshold on Which Pad ?

4. Hit a Pad. The display will show you the threshold for that pad.

Pad01 Threshold = 14

5. If you strike that pad again, you will increment the Threshold (less sensitive and less likely to false trigger.)
   To decrement while editing, do a "quick-click". That is, release the footswitch and quickly redepress it. The beeping when you hit a pad will change to indicate that you are now decrementing. (A second "quick-click" will return you to incrementing.) Do a quick-click and you will be back in the screen you were in, but now decrementing. Do another quick-click and you are back incrementing again. Also, if you are decrementing and then select another pad without releasing the foot, you will be decrementing <u>that</u> pad now.
6. If you strike any other pad you will see the value of its Threshold and be able to change its value. It is normal for your pads to have different values, so only change those you want to make more or less sensitive.

Pad Low and High Dynamics:

The training of your pads determines two values: your **Low Dynamic** and your **High Dynamic**. These settings tell where your soft and hard hits lie in the trapKAT's range. As well as training with a soft and hard hit, you may also go in and manually change these values yourself. Here's how:

1. Depress the GLOBAL EDIT footswitch.
2. Hit rimPad13 for Low Dynamics (or rimPad14 for High Dynamics). The display will say:

Hit Pad Again for Low Dynamic

3. Hit rimPad13 (or rimPad14) again. The display says:

Change Low Dynam on Which Pad ?

4. Hit a Pad. The display will show you the Low (or High) Dynamic for that pad.

Pad 01 Low Dynamic = 14

5. If you strike that pad again, you will increment the Low Dynamic (higher Low Dynamic gives more of a plateau of your Minimum Velocity at the bottom of your playing dynamics.) (A lower High Dynamic will make you reach your Maximum Velocity sooner as you play harder.)
   To **decrement** the Dynamics, do a "**quick-click**". (Release the GLOBAL EDIT footswitch and then quickly redepress the GLOBAL EDIT footswitch, *without* hitting a pad in between.)
6. If you strike any other pad you will see the value of its Low (or High) Dynamics and be able to change its value.

Hits that are softer than your Low Dynamic setting will play at your Minimum Velocity setting. Hits that are harder than your High Dynamic will play at your Maximum Velocity. Your Velocity Curve effects how quickly your loudness goes from the Minimum Velocity to your Maximum Velocity - as you play from your Low Dynamic to your High Dynamic. Experiment with these settings if you would like to *tweak* your response.

BASS Input Gain:

The BASS input can be trained and threshold and dynamics can be changed in the same way as for pads. Simply play the bass pedal instead of hitting a pad in the previous 2 pages of instructions.

One additional difference for the BASS Input is that it has a globally selectable (1 setting used for all kits) GAIN to help accommodate the variety of Bass Triggers available. Simply hit rimPad18, with the GLOBAL EDIT footswitch depressed, and you cycle through the three Gain settings - MIN (for fatKAT and miniKICK), MID (for other bass triggers that need more boost), & MAX (for kicKAT). If after training the BASS input, the response of your bass trigger is not optimum, then try a new Gain, then Train and adjust your Bass Threshold.

PREFERENCES:

There are a miscellaneous group of settings that we will tell you about here, because they don't easily fit in any other category.

FactoryKits / UserKits:

The advantage of FactoryKits is that all of the Kits should always work with any GENERAL MIDI sound module - since the FactoryKits can't be permanently changed. If these FactoryKits keep you happy then that is wonderful.

However, eventually you will probably want to create your own Kits with your own layouts, Program Changes, and Velocity settings. To make your own Kits you need to get into the UserKits. To do that is simple - just depress the GLOBAL EDIT footswitch and hit Pad1 to switch back and forth between FactoryKits and UserKits. That's it!

UserKits Groove Enable:

Once you are in UserKits you can choose to have rimPads 15, 16, 23, and 24 all be playing pads or be control pads for the Grooves like they are in FactoryKits.

To change the selection of how these 4 rimPad sections are used in UserKits simply depress the GLOBAL EDIT footswitch and hit Pad2 twice.

Groove Volume:

You may wish to change the Volume of your Melodic and Percussive Grooves relative to the Volume of your playing on your Kits.

To access the Volume of your Grooves, simply depress the GLOBAL EDIT footswitch and hit Pad9. Successive hits of Pad9 will raise the Groove Volume. The range of values is 0 to 10. "Quick-click" the GLOBAL EDIT footswitch to decrease the Global Groove Volume.

Memory Protect:

Once you have created your own UserKits and start practicing using them, you may want to have a little protection from accidentally changing them. If **Memory is Protected**, the trapKAT will not allow any permanent changes to be made to your UserKits.

To return to **Memory Not Protected**, so you can make real changes to your UserKits, depress the GLOBAL EDIT footswitch & hit Pad3 twice.

Merge ON/OFF:

MIDI information coming into the MIDI IN of your trapKAT may be passed (or *merged*) through to the MIDI OUTs if **Merge** is **ON**. If you have another controller besides your trapKAT, you may want to use both that and your trapKAT into the same sound source. The Merge setting allows you to do that. If you have a keyboard sound source routed back in for MIDI IN Note AutoLoad, you may hear a MIDI "Loop" - flanged sounds or sometimes a literal cacophony of sound if you are merging Notes back through to the sound source again in a loop. To stop this effect, turn the Merge **OFF**.

To change your Merge setting, simply depress the GLOBAL EDIT footswitch and hit Pad4 twice.

Cymbal Choke Enable:

Cymbals may be "choked" by simply grabbing the cymbal pad or rim in the same manner you would grab an acoustic cymbal to choke it. This feature presently works with the Roland TD7®, and TD5®, and our malletKAT PRO With Sounds,when used as a sound source.

To change the Cymbal Choke Enable setting, simply depress the GLOBAL EDITING footswitch and hit Pad8 twice.

GENERAL MIDI Note Names ON/OFF:

As well as displaying the Note # for the Notes assigned to your pads, you can choose between additionally displaying the GENERAL MIDI Name for that # or displaying an Octave and Note letter.

Generally you will want to display the GENERAL MIDI Note Names. However, if your sound source is not set up with the GENERAL MIDI conventions, you may want to turn this setting OFF.

To change the GENERAL MIDI Note Names On/Off setting, simply depress the GLOBAL EDITING footswitch and hit rimPad16 twice.

Display Viewing Angle:

The normal viewing angle for your display is "**Edge View**". If, however, you play standing up leaning over the trapKAT you may wish to change the viewing angle to "**Above View**".

To change the display viewing angle setting, simply depress the GLOBAL EDITING footswitch and hit rimPad20 twice.

Beeper ON/OFF:

Normally, the beeper gives you auditory feedback as you do editing on your trapKAT. If you find that annoying, you can shut it OFF.

To change the Beeper On/Off setting, simply depress the GLOBAL EDITING footswitch and hit rimPad19 twice.

Groove Auto Off:

Grooves in the trapKAT will play for 2 minutes if the trapKAT is not re-hit and then shut off. By selecting DISABLE, this will allow the grooves to continue to play until you strike the Groove Start/Stop pad a second time. To change the Groove Auto Off setting, simply depress the Global Editing footswitch and hit PAD 5 twice.

DATA DUMPS:

Data Dumps are used to send out your trapKAT RAM settings to be saved on an external storage device like a data disk or computer so that you may retrieve them later. Data dumps are used as a back-up against the accidental loss of your Kits and Global settings. Having a Data Dump of your Kits is like having a spare tire in your car trunk. It is not necessary until you need it, but when you need it - you'll regret not having been prepared.

The trapKAT sends out 3 kinds of Data Dumps. How to dump out this data is shown below. To receive data back in, just send it into the trapKAT MIDI IN from the external storage device. The trapKAT will automatically receive it and notify you of the receipt. For technical details about the size and format of these dumps, refer to Appendix (p.44.)

All Memory:

To dump out All Memory, simply depress the GLOBAL EDIT footswitch

and hit pad10 twice.

One Kit:

To dump out the current Kit, simply depress the GLOBAL EDIT footswitch and hit rimpad24 twice.

Global Memory:

To dump out the Global Memory (Pad Thresholds, Dynamics, Preferences, etc.), simply depress the GLOBAL EDIT footswitch and hit rimpad23 twice.

RE-INIT trapKAT:

To Reinitialize your trapKAT back to all of the original Factory settings, simply hold down the GLOBAL EDIT footswitch and hit rimPad15. The screen will say:

Depress Pad1 and Hit Pad15 Again

If you then hit rimPad15 again, *while* holding down Pad1, and *while* still depressing the GLOBAL EDIT footswitch, the trapKAT will return to the original settings for everything - UserKits, Pad Thresholds, Preferences, etc.

RECEIVE PROGRAM CHANNEL:

You can have the trapKAT change Kits under the control of some external device like another controller or a sequencer. To do this you select a Channel to Receive Program Changes on. This Channel must match the Channel that the external device is sending Program Changes to the trapKAT on. (Don't forget to connect a MIDI cable from the MIDI OUT of the external device to the MIDI IN of the trapKAT.

To select the Channel to Receive Program Changes on, simply depress the GLOBAL EDIT footswitch and hit Pad7. Your choices range from OFF (don't respond to Program Changes on any Channel), ALL (respond to any), to Channels 1 to 16.

8. MIDI Primer:

What is **MIDI** anyway? First, MIDI is an acronym for Musical Instrument Digital Interface.

It is a standard or an agreement among the various musical instrument manufacturers that we will all use the same kind of connections and electrical signals so that any two musical instruments can be connected together and work.

CONNECTIONS:

MIDI connections are all made with "5 pin DIN cables" that plug into "5 pin din jacks" on the musical instruments. Only two wires are used in these cables to carry the information from one instrument to another. A MIDI Out jack is used by an instrument to send information to another. A MIDI In jack is used by an instrument to receive information from another.

SIGNALS:

The electrical signals of MIDI are **digital**, not analog. This ensures that the communications will be exact. The expression "close enough for rock-and-roll" doesn't apply here. If you want to hear a snare drum, but some of the time hear a bass drum instead, because they are close to each other in the note table, you'd get upset. Digital gives you exactly what you asked for.

The signals are serial, not parallel. This means you don't need a complicated or expensive cable to make the connection. One pair of wires in the cable will do.

The signals are opto-coupled. Current flowing through the MIDI cable turns on a tiny light inside a chip inside the receiving instrument which ends up producing the electrical signal that the receiving instrument uses. Wow! Cool, huh!? That means that there is **no ground connection** between the MIDI-connected instruments. This eliminates 60 cycle hum from ground loops between these instruments.

CONCEPTS & COMMANDS:

The main **Concepts** you need to understand are: MIDI **Channels**, MIDI **Notes** and MIDI **Velocity**.

The main **Commands** you need to understand are: MIDI **Note On**, MIDI **Note Off**, MIDI **Program Change**, and **System Exclusive**.

CONCEPTS:

If we use a telephone line analogy, MIDI **Channels** are like phone numbers. **Sound Sources** are like homes. MIDI **Notes** are like the individual people in the individual homes that has that phone number. MIDI **Velocity** is like the information you tell the person you are talking to.

A separate MIDI **Channel** is usually assigned to each Sound Source you are using (like a phone number per home). There are 16 different MIDI Channels available (there's a lot more phone numbers - you probably have more friends than sounds sources!). To make MIDI work for you, you need the Channel your sound source is set to receive on match the Channel your trapKAT is sending on. It's that simple!

On the trapKAT you can have every Pad send on different Channels if you want - that is an advanced use - if you have more than 1 sound source. Generally, you will set all Pads of your trapKAT to send on the same Channel as your sound source is set to receive on. Most commonly used Channel for drum sounds is **Channel 10.**

- So, to get your **sound source** to respond at all, you first need to **match** up the **Channel** you are sending on to the Channel your sound is receiving on.

Each Sound or Pitch within each Sound Source is accessed by the MIDI **Note** Number that is sent (just like asking for the person by name when you reach the correct home).

- So, to get the correct **sound** to play (in the sound source you are controlling) when you hit a Pad, you **match the MIDI Note number** on your trapKAT **Pad** to the Note number that plays that sound in your **sound source.**

The **Velocity** that is sent tells the Sound Source something about the dynamics of the Sound - usually **how loud** to play the Sound. A Note with a low velocity value will play softly. A Note with a high velocity value will play loudly.

- After you *train* your trapKAT to respond to your playing *dynamic range* (what soft and hard hits are to you), the trapKAT will send out the appropriate velocity based on your playing dynamics.

COMMANDS:

A MIDI **Note On** Command tells a specific Sound Source to play a specific Sound at a specific volume. It **turns a Sound on.**
It contains which Channel (which sound source) to play, which Note (sound) to play, and which Velocity (loudness) to play.

A MIDI **Note Off** Command tells a specific Sound Source to stop playing a specific Sound . It **turns a Sound off.**
It contains which Channel (which sound source) and which Note (sound) to shut off.
(Most drum machines actually ignore Note Off commands.)

A MIDI **Program Change** Command is used to tell another instrument to use a specific **Kit** or patch of sounds or settings.
A Program Change sent to a drum machine will generally call up a different Kit of drumsounds. A Program Change to a synth would call up different sounds (flute, piano, xylophone, etc.). A Program Change Command to a Lighting Effects unit would call up a different lighting setup.

A MIDI **System Exclusive** Command is something specific to a particular instrument. It is typically used to do **Data Dumps.**
A Data Dump is when an instrument sends its **settings** out MIDI in a big group so that they can be **saved** on some storage device (like a computer or a MIDI disk drive). Then the Data Dump can be sent back into the instrument later on to retrieve those settings again. Data Dumps are used as a back-up against the accidental loss of your settings or Kits.

SO WHAT'S THE BIG DEAL?:

The big deal is that MIDI is new. It's not only new for you, but it is new to the music business. It's only been around for 10 years - drumming has been around since we lived in caves. It takes time for people to get used to change - especially change that is powerful and technical.

You don't really need to understand how MIDI works - you just need to understand what it does and how to use it.

Thinking back to our analogy to phones - you don't need to understand what actually happens between you talking into the receiver and someone else hearing what you said miles away. You just use it. It probably has never bothered you that you don't understand it! You are familiar with it and can get it to do what you want. Now it is simply a part of your life that you use and take for granted.

MIDI is like your phone - just use it - don't be scared if you don't understand it!

Continue to read the manual and experiment with your trapKAT. If you are trying to do something and get stuck, pick up that mysterious phone and give us a call - we'll be glad to help you.

ALL YOU REALLY NEED TO KNOW TO GET GOING WITH MIDI:

1. **Match the Channel** your trapKAT is sending on with the Channel your sound source is set to receive on.

2. **Match the Note numbers** on your trapKAT Pads to the **sounds** you want your sound source to play.

3. Use **Program Changes** to select other **groups of drum sounds** or other pitched sounds.

Appendix A:
Trouble-Shooting Help - What if it isn't Working?

Symptom: No Sounds out of Sound Source when you play on trapKAT.

What To Do: Here is a list of things to try to help isolate your problem:

- Verify trapKAT and Sound Source are ON and are plugged into working AC sockets! (Do their displays light up?)
- Try a compatible AC adaptor if the trapKAT does not beep or "light-up" on power up. The AC adaptor must have a "positive tip" as designated by this symbol:
  (- —◉— +) and its output should be between 9V and 12V, with 400mA or greater current rating.
- Verify trapKAT MIDI OUT is connected to Sound Source MIDI In.
- Try another MIDI cable.
- Verify Sound Source is OK. Can it make sounds on its own? (Push its sound buttons and listen with headphones.) Try to control the Sound Source with another controller.
- Verify trapKAT is alive by depressing the NOTE EDIT footswitch and hitting a Pad. If you see that Pad come up on the display then the trapKAT is seeing it's Pads and is alive and running.
- Call up FactoryKit 1 on the trapKAT (see p.9). Verify that the Sound Source is On MIDI Channel 10.
- Disconnect the MIDI cable. Turn the trapKAT and Sound Source Off. Turn the trapKAT and the Sound Source back on. Reconnect the MIDI cable.
- Try REINITIALIZING your trapKAT (See p.30).

- Call Alternate Mode Customer Service (413) 594-5190.

Symptom: HiHat does not work.

What To Do:

- See Chapter 6, "HiHat".
- Verify hatKAT or HiHat footswitch is plugged into the hatKAT input on the trapKAT.
- Call up FactoryKit 4 on the trapKAT (See p.9-10). Verify that the Sound Source is on MIDI Channel 10. See if pads 7 or 0 act like HiHats.
- Disconnect the MIDI cable. Turn the trapKAT and Sound Source Off. Leave all footswitches plugged in. Turn the trapKAT and the Sound Source back on. Reconnect the MIDI cable.
- Try REINITIALIZING your trapKAT (See p.30).

Symptom: Your trapKAT playing surface is not responding well.

What To Do:

- Adjust thresholds of your Pads - see p.26.
- Train your Pads to your personal dynamic range - see p.25 .
- Call up FactoryKit 1 on the trapKAT (See p.9). Verify that the Sound Source is on MIDI Channel 10.
- Disconnect the MIDI cable. Turn the trapKAT and Sound Source Off. Leave all footswitches plugged in. Turn the trapKAT and the Sound Source back on. Reconnect the MIDI cable.
- Try REINITIALIZING your trapKAT (See p.30).
- Call Alternate Mode Customer Service (413) 594-5190.

Symptom: A trapKAT pad or rim is false triggering (playing notes without you striking it.).

What To Do:

- Raise the threshold of the Pad - see p.26.
- Use the allen wrench (5/64") supplied with your trapKAT to lighten the tension on the rubber around the perimeter of the trapKAT playing surface.
- Try REINITIALIZING your trapKAT (See p.30).
- Call Alternate Mode Customer Service (413) 594-5190.

Symptom: Interaction - when you strike one pad a different pad also plays.

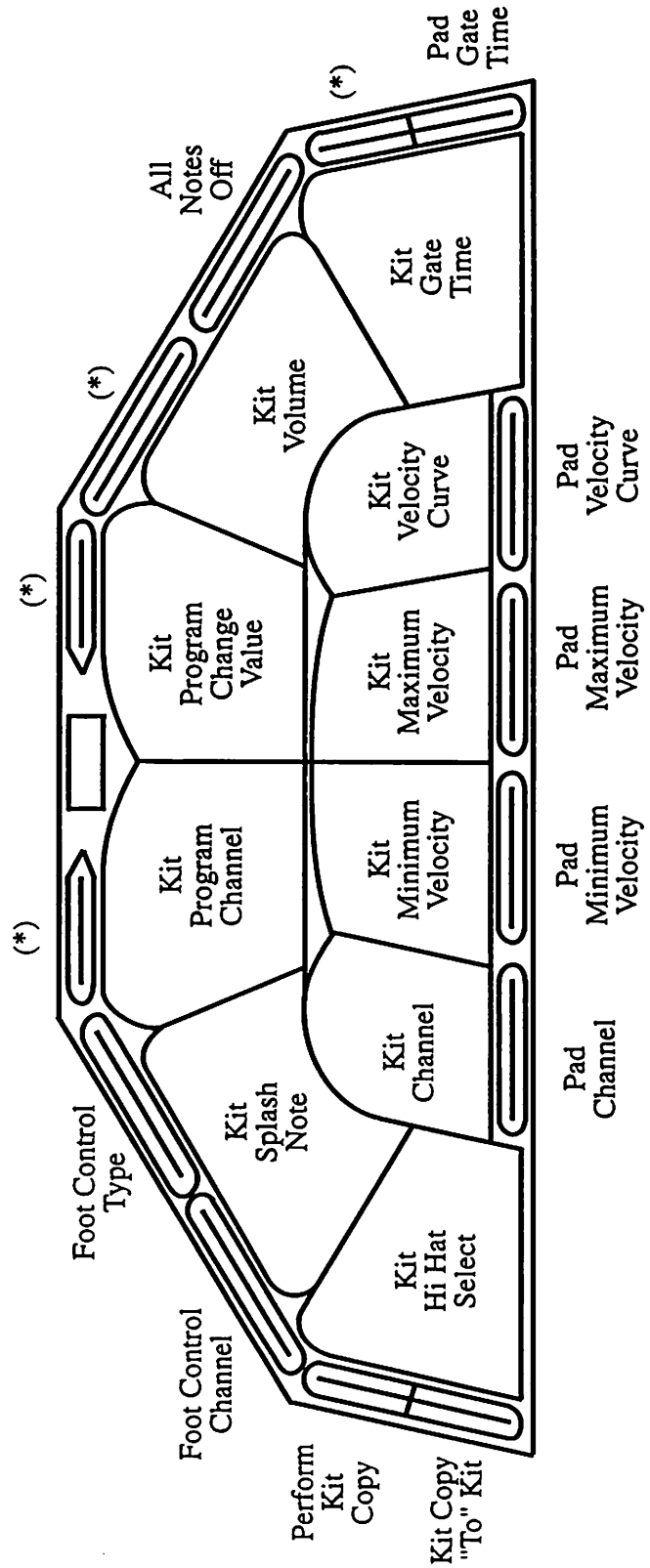
What To Do:

- Raise the threshold of the Pad that was <u>not</u> supposed to play (p.26.)
- Use the allen wrench (5/64") supplied with your trapKAT to adjust the tension on the rubber around the perimeter of the trapKAT playing surface. (Don't tighten so much that you bend the metal!)
- Try REINITIALIZING your trapKAT (See p.30).
- Call Alternate Mode Customer Service (413) 594-5190.

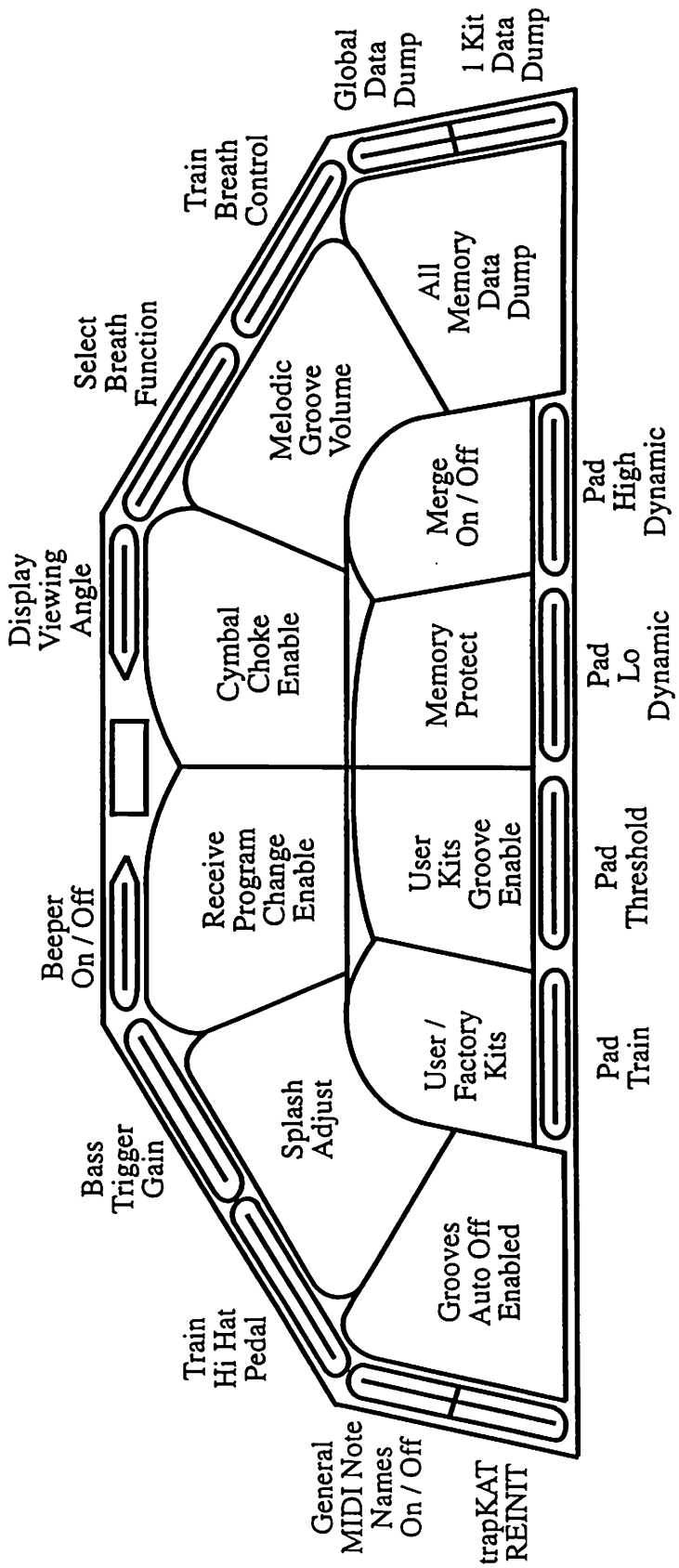
If you experience a problem with your electronic system, try to isolate specifically where the problem is. Could it be a problem with your Sound Source? Amp? How about your footswitches or MIDI cables orAC Adaptor? Is there some sequence of actions that will repeatedly cause the problem? The more that you can rule out or discover before you call us, the easier it will be for us to help you solve your problem.

Appendix B:

KIT/PAD Edit Layout.



GLOBAL Edit Layout.



Appendix C:

Glossary of Terms.

Channel: In MIDI there are 16 Channels. A MIDI Channel is like a phone number. For two instruments to communicate, they must talk over the same Channel. This is very much like communicating with a friend on the phone. You must dial the correct phone number first.

Controller: A MIDI Controller is a device whose purpose is to control other MIDI devices (as opposed to a Sound Source whose job is to be controlled). Generally, a Controller is the Interface device which you play on, such as a Guitar Controller, Keyboard Controller, Violin Controller, Wind Controller, or Drum Controller.

Data Dump: The internal data information that a musical instrument sends out so that you can save its settings on a back up system.

Default: The standard, customary, or "safe" value for a given setting.

Dynamics: A measure of how hard or softly you are playing with your sticks.

Editing: The act of changing the settings in a device.

Factory Kits: Kits that are always present in your instrument. These are Kits that we at Alternate Mode generated for you to use with the various Sound Sources available.

Gate Time: The length of time that a Note sounds as sent by the trapKAT. It is the length of time the trapKAT waits after it sends a Note On, before it sends a Note Off. Many drum machines ignore the Gate Time sent by the trapKAT and sound the Note until it's fully "played out". Melodic sounds like horns, strings, & organs often do respond to Gate Time.

GENERAL MIDI (GM) Sound Module: A sound module that comforms to the General MIDI specification specifying Program layout by sound type for simple connection between MIDI devices.

Kit: A collection of MIDI Note and Channel settings for all of your Pads, HiHat, and Bass drum. Basically, a Kit defines what Sounds your Pads make.

MIDI: MIDI stands for Musical Instrument Digital Interface. It is an agreed upon standard for communications between electronic musical instruments. It is simply the means by which your trapKAT communicates with the Sound Sources you connect it to.

MIDI Delay: A term which is mistakenly used, by many, to refer to all kinds of delay ranging from Sound Source Delay, to Sound Travel Delay, to actual delay due to MIDI. The delay caused by the transmission of MIDI information is only 1 millisecond! (.001 Second).

MIDI IN: A 5 pin DIN jack by which an instrument receives MIDI information from another musical instrument. Through its MIDI In, the trapKAT can receive DATA DUMPs, Kit changes, and Note # AutoTrain information.

MIDI OUT: A 5 pin DIN jack by which an instrument sends MIDI information to another instrument.

The trapKAT sends out Channel, Note, and Velocity information, Continuous Controller messages 01 and 04 if hatKAT is plugged in and SYS EX Data Dumps.

Groove: A Groove is a pattern or "riff" that you can select to play for you to practice against.

Note Number: A "MIDI Note" is the number sent in a "MIDI NOTE ON" or a "MIDI NOTE OFF" command to tell the receiving instrument which Sound to make.

Program Change: A MIDI command which instructs the receiving instrument to change to a new group of settings. For Sound Sources this generally means selecting a new group of sounds.

Response: What Velocity the trapKAT sends out related to your playing Dynamics. A natural response is that the Velocity (hence the loudness) gets bigger as your dynamics increase.

Screen: A display "window" on the trapKAT, usually with information about current settings.

Sound Source: A device that accepts MIDI input and then plays a sound based on the information it received. Drum machines, samplers and synthesizers are all examples of Sound Sources.

Sound Source Delay: The time it takes for a Sound Source to play a sound *after* it has received all the MIDI information it needs. Usually this is about 1/2 to 15mS.

Sound Travel Delay: The time it takes for a sound to travel through the air from the source (speakers, drum head, etc.) to our ears. Usually this is about 1 to 20mS.

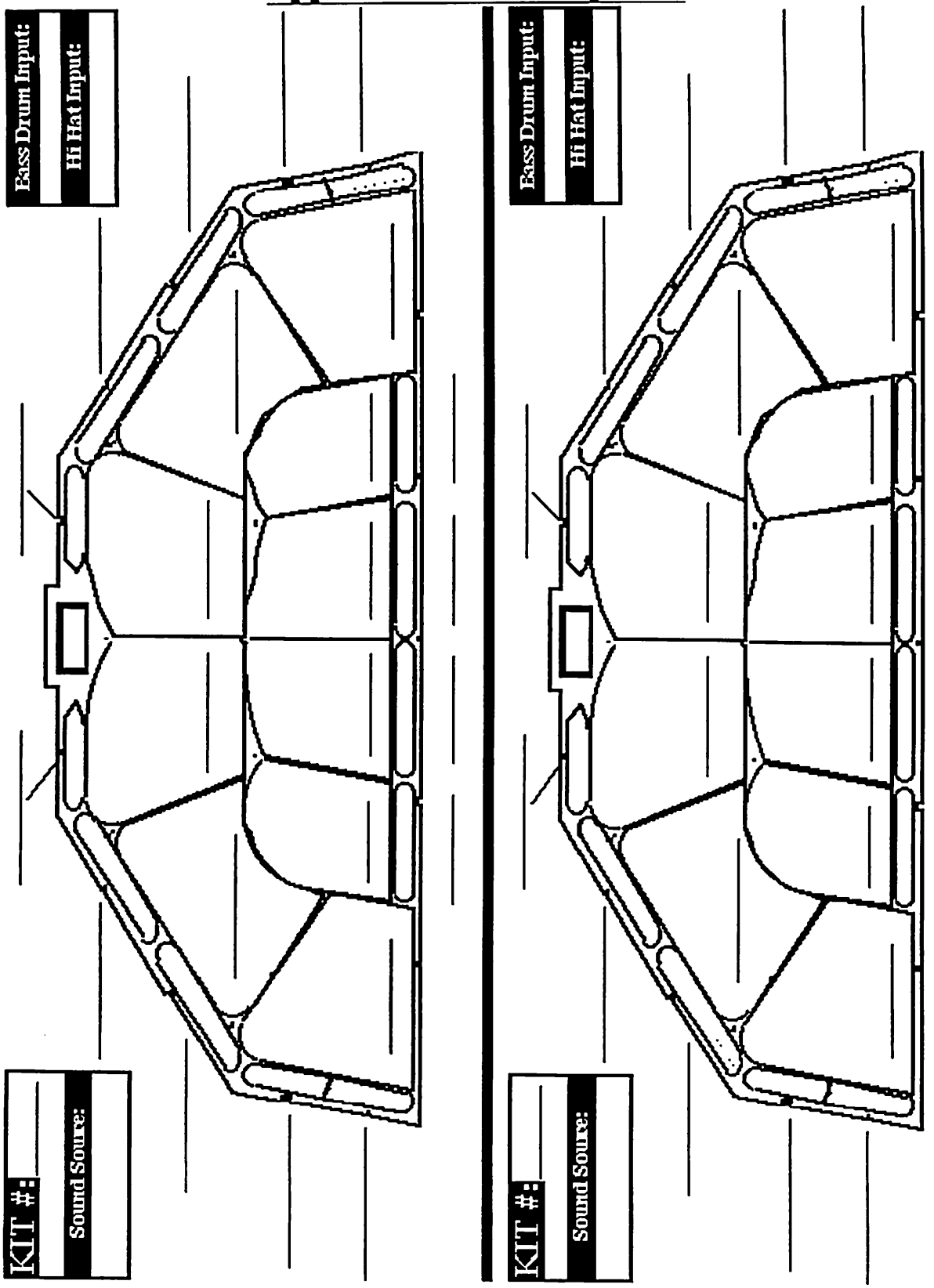
Toggle: To switch back and forth from one selection to another. e.g. GLOBAL EDIT footswitch and Pad1 toggles you between FactoryKits and UserKits.

Trigger: Any of various external impact sensors that can be plugged into the trapKAT bass input. Normally these are foot triggers like the kicKAT, miniKICK, and fatKAT.

User Kit: Kits that are changeable in your trapKAT. These are Kits that you alter to meet your needs.

Velocity: A measure of how loud or soft a Note the trapKAT will play on your Sound Source.

Appendix D: Kit Templates.



Appendix E:

MIDI For Percussion.

The world of Percussion has some special needs that affect how MIDI is generally used for Percussion and Drum Sounds. These special differences include how Note Offs (Gate Time) are handled, how Notes and Program Changes are used, and sensitivity to time delay and polyphony.

Keyboardists, guitarists, string, and horn players are all used to dynamically controlling the length of the Sounds they produce. This is not generally true for drummers and percussionists. Generally, once a drum is struck, it plays its sound out on its own. (Of course there are exceptions like cymbal choking and damping mallet or drum sounds - but often the sounds do play out on their own.)

Because of this, it is not unusual for a drum machine to not pay any attention to Note Off Commands. This means that generally, even if a drum machine is told to turn off a Sound after only a few milliseconds, most will play the Sound out until it is done on its own anyway. Because of this, you can choose on the trapKAT not to send any Note Off Commands - because often, for drum Sounds, they are not needed and simply fill up space in sequencers and waste the time of the Receiving Sound Source.

Another difference for Percussion is that different Note Numbers are more likely to stand for totally different Sounds - (not just different pitches of the same Sound). There are exceptions to this, but a keyboard player is more likely to think of MIDI Notes correlating to Pitch and a drummer is more likely to think of MIDI Notes as referring to totally different Sounds.

For a keyboard player, a **Program Change** Command is typically thought of as selecting some specific Sound which the MIDI Notes access different Pitches of. For a drummer, a Program Change is generally thought of as selecting a specific collection of individual sounds which specifies which different Sounds can be accessed through MIDI Note On Commands.

Because drummers and percussionists have a highly developed sense of time, they are more sensitive to time delays. A drummer is very sensitive to where a Sound is played with respect to the beat. This brings us to MIDI Delay. The MIDI time delay for a Note On Command is 1 millisecond (one thousandth of a second). It is imperceptible! (5 milliseconds (mS) is where you start to notice, 10 mS is noticeable and 20 mS is obnoxious.) (1 mS = .001 Second)

So why do we hear all this talk about MIDI Delay? Because they are really talking about **Sound Source Delay** when they talk about MIDI Delay. So what is Sound Source Delay? It is the time that it takes a Sound Source to respond to a MIDI Note On Command it has received and start to make a Sound. Sound Source delay typically ranges from 1/2 mS to 15 mS. The Sound Sources with 1/2 mS to 3 mS delay are the ones worth owning.

So if you want to avoid "MIDI Delay", avoid Sound Source Delay! Call us and we'll tell you how the current Sound Sources rate.

Interestingly enough, there is also Sound Travel Delay! It actually takes sound a noticeable time to travel through the air. Hence echoes. Hence you see lighting, then hear thunder seconds later. Specifically, sound travels 1 foot in just a bit less than 1 mS. This means that a monitor placed 10 feet from your ears will cause around 10 mS of delay - Sound Travel Delay! (There is about a 2mS delay from when you strike your acoustic snare drum to when the sound gets to your ear!) Earphones have a Sound Travel Delay of only a teeny bit, since the little speakers inside are so close to your ears.

Looking at the actual times involved in MIDI Delay (1mS), Sound Source Delay (.5mS-15mS), and Sound Travel Delay (2-10mS), you can see that actual MIDI Delay is the least of your worries.

(By the way, a MIDI Merge (In-merged-to-Out) generally has 1 to 2 mS Processing Delay.)

Because a drum sustains *after* you hit it for some time, quick hits or rolls have essentially two or more separate acoustic sounds playing at once. Drums need polyphony per drum to sound real. The trapKAT has 4 Note polyphony per pad so that you can capitalize on any sound sources that support polyphony per note.

Appendix F: MIDI Implementation Chart.

Function	Transmitted	Recognized	Remarks
Basic Channel - Default	1 -16	1-16	
Changed	1 -16	1-16	
Mode: Default	Mode 3	x	
Messages Altered	Poly/Mono	x	
Note Number:	0 - 127	x	
Velocity: Note On	1 - 127	x	
AfterTouch: Keys	x	x	
Channel	x		
Pitch Bender:	By FootControl or Breath.		
Control Change:	01, 04 by FootControl PitchBend by Breath Control	x	
Program Change:	0 - 127	0 -127	
System Exclusive:	0	0	Dump 1 Kit Global All Memory
System: Song Pos	x	x	
Song Sel	x	x	
Common: Tune	x	x	
System: Clock	x	x	
Real Time: Commands	0	0	Sequence Start, Stop
Aux: Local On/Off	x	x	
All Notes Off	0	x	
Messages: Active Sense	x	x	
Reset	x	x	

Notes: Note Offs timed by Internal Gate Time or continued physical holding on Pad.

0 : Yes
x : No

Appendix G:
System Exclusive Documentation.

MIDI allows you to SAVE your settings from MIDI instruments to data disks and computers so you can back up your work. This is called a **Data Dump**.

The trapKAT will send a variety of Data Dumps of its internal information, out the MIDI OUTs if you use the GLOBAL EDIT footswitch and hit Pad10, rimPad23, or rimPad24.

The trapKAT will automatically accept or receive a Data Dump via MIDI IN whenever one is sent in.

A trapKAT **SYSTEM EXCLUSIVE DATA DUMP** consists of two parts:

1) A 9 byte **"header"** that describes the dump and
2) The **DATA!** The amount of data depends on type of dump. Followed by 0F7H (End of Sys Exc)

The 9 bytes of the header are defined below:

HEADER:

byte 1:	(0F0H)	Start of System Exclusive Status Byte
byte 2:	(00H)	
byte 3:	(00H)	
byte 4:	(15H)	[00H, 00H, 15H is KAT's Company ID #.]
byte 5:	(63H)	Instrument type ID # for the trapKAT.
byte 6:	(XX)	Dump Type
byte 7:	(7FH)	Individual Instrument ID # (=127 in trapKAT)
byte 8:	(XX)	Software Version #
byte 9:	(XX)	Aux Type # (Kit # or Motif # if Type is Kit or MOTIF)

DATA:

The DATA is split into nibbles and sent with a 0 for MSN. It takes two bytes of System Exclusive transmission for every byte of internal trapKAT information.

The amount of data for each dump type is as follows:

Dump Type	Amount of Data
Global	xxxx
1 Kit	xxxx
All Memory	xxxx

After all the DATA has been sent, the End of System Exclusive Command (0F7H) is sent.

Appendix H:
Inserting New Software Chips For Software Updates.

HOW TO PHYSICALLY CHANGE YOUR SOFTWARE CHIP:

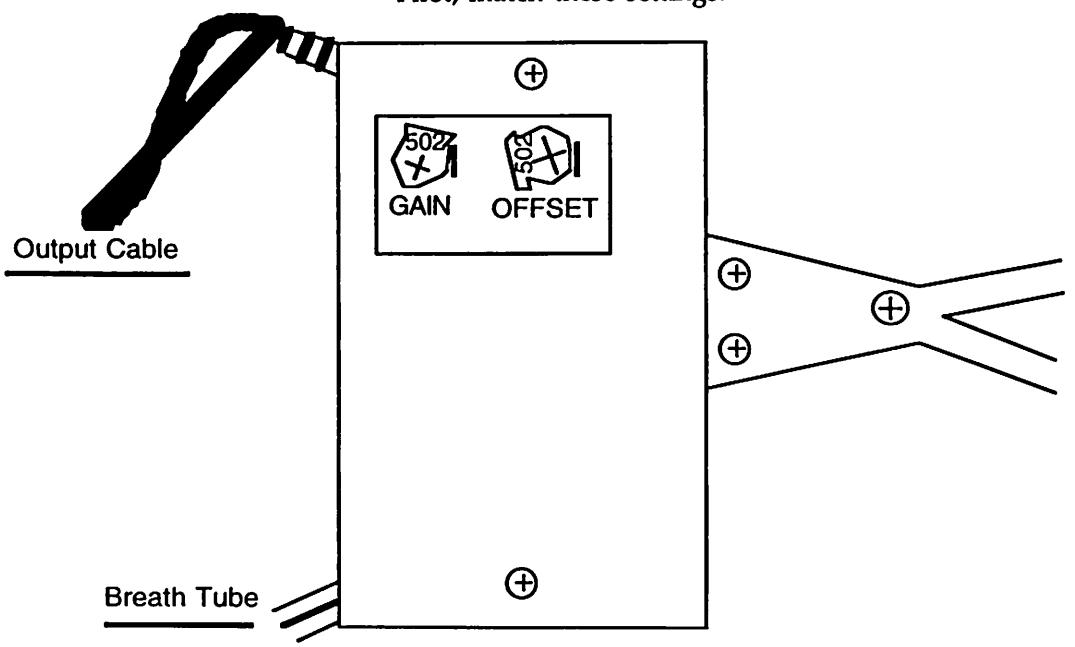
Tools Needed: 1 medium flat screwdriver.

1) First, remove the AC adaptor plug from the back of the trapKAT!
2) Find a smooth, clean, flat surface and place your trapKAT upside down on it, the jacks facing away from you.
3) Remove back cover of the trapKAT (16 screws).
4) When the trapKAT is opened, you will see one large circuit board towards the back.
   On the front right of the printed circuit board is a large chip with a white paper label that says something like "trapKAT 1.0". The chip with the white label is your Software Chip, the code that runs your trapKAT - its Operating System.
   Before you take the old software chip out, note how it is oriented in the socket. Specifically notice that the "notch" on the end of the chip is away from you.
5) The chip is at the top end of the circuit board. To remove an old chip, you will use your flat screwdriver. You will pry the chip out of its socket. Look at the Upgrade chip you received and you will be able to tell what is the chip and what is the socket. You want to insert the screwdriver *between* the chip and the socket so as to pry up the chip but not the socket. As you start to pry up the chip insert the screwdriver further under the chip and pry up more, then insert screwdriver even further and then pry up more until the chip comes out of the socket.
   Don't be scared - just pry a little bit and then push the screwdriver in further, until the chip is out. Take your time, don't be in a hurry. Make sure you insert the screwdriver *between* the chip and the socket before you start to pry each time. **(Instead of between the socket and the circuit board.)**
6) After you have the chip out, place the new chip in its socket, being careful to orient it in the same way that the old chip was (remember the "notch"?). Take a little care to align the legs of the chip into the holes in the pins of the socket. Then push down evenly on the chip. It should push down snugly into the socket. Visually check to see that none of the legs got squished and are smashed under the chip.
7) Replace the back cover of your trapKAT and reinsert the 16 screws.
8) Turn your trapKAT back over, and reinsert the AC adaptor plug into the trapKAT. Now turn your trapKAT back on. If the display is working, you are OK. If the display is not working then:
   a) Remove the AC adaptor plug again.
   b) Turn the trapKAT over again and remove the 16 screws.
   c) Take the back cover off again.
   d) Try reinserting the chip (pry it out again to make sure that the legs didn't get bent under the chip).
   e) Put the back cover on, turn the trapKAT back over, reinsert the AC adaptor plug, and turn the power back on.
   f) If this still fails, put your OLD software back in and give us a call @ 413-594-7466.
9) **After you have had the new software in and used it for several days, please send the old chip back to us. They are reusable.**

Appendix I:

Breath Control Adjustments

To actually use a Breath Controller (Yamaha BC-10) you should first adjust the two trimpots in the headset to match the following diagram, then train it.
First, match these settings:



Now train your BC-10 BreathController for optimum response.
To "Train" the response of the breath controller do the following:

1. Depress the GLOBAL EDIT footswitch and hit rimPad22 twice.
2. The trapKAT will sound a continuous beep. You should respond by blowing through the breath controller and then hitting a pad.
3. The trapKAT will again sound a continuous beep. You should now hit a pad again without blowing.
4. The breath controller is now trained!

To assign what you want the Breath Controller to do simply depress the GLOBAL EDIT footswitch and hit rimPad21 several times scrolling through your options. Your options include:

PitchBend Up (On the Program Channel)
PitchBend Down (On the Program Channel)
Expression (On the Program Channel)
Sustain (On the Program Channel)
Off (Breath Controller not being used)

Appendix J:

Warranty Policies.

The trapKAT has a limited warranty. The trapKAT is warrantied against defects due to materials or workmanship for 90 days on labor, 6 months on FSR and rubber, and 1 year on all other parts. Save your sales receipt, it is required for proof of warranty.

Warranty Restrictions:

Damage or defects sustained through unauthorized repair or tampering, or abusive treatment are not covered by this warranty. The warranty does not cover damages to the trapKAT as a result of incorrect polarity AC Adaptor. The shipping expenses and arrangements for repair are the responsibility of the purchaser.

Alternate Mode is not responsible for loss of Kit Memory when your controller is sent in for repair or upgrade. Please, save your Kits on a Data Disk, Sequencer, or Computer before sending in for repair.

Care and Maintenance.

The trapKAT is an electronic musical instrument that was designed to take a pounding - from a pair of drum sticks - not from rolling down the stairs. Simply use good judgment and your trapKAT will provide you with years of enjoyment.

Don't pour or spill liquids on your trapKAT.
Don't leave in a very hot car for extended periods of time.
Don't leave in overly damp areas for extended periods of time.

Do not clean the rubber or metal surfaces with alcohol or solvents (alcohol and solvents will dry rubber out and the rubber may then crack and alcohol may remove some of the paint on the metal).

The rubber can be cleaned with a mild cleanser such as a dish washing liquid or Simple Green, Soft Scrub, or Fantastic. Do not pour cleanser on your playing surface. Apply a small amount to a clean cloth and then clean your playing surface with the cloth. A Q-tip works very well for cleaning the cracks in between the pads.

Like an acoustic drum head the tension of the rubber playing surface may need adjustment from time to time. You received a small allen wrench (5/64") with your trapKAT to adjust the tension on the edge of the rubber playing surface with the allen screws in the top of the metal chassis. Adjust this tension to help make the rims and pad surfaces near the rims lay flat. (Do not overtighten to the point where you actually bend the metal.)

The metal can be cleaned with a mild cleanser such as dishwashing liquid. Do not pour the cleanser on the trapKAT. Apply a small amount of cleanser to a clean cloth and then clean the metal surfaces with the cloth.

Appendix K:

Alternate Mode, Inc.

Alternate Mode is a company dedicated to making the most powerful Controllers in the world. We have a commitment to quality and responsiveness. Our designs are responsive and we as a company are responsive. Feel free to call us with questions or suggestions.

Our products are designed to be upgradeable. Product improvements and upgrades are designed to allow them to be implemented on original versions of the product.

Our address, phone, and fax are:

Alternate Mode, Inc.
53 First Ave.
Chicopee, MA 01020
Phone - (413) 594-5190
Fax - (413) 592-7987

We look forward to hearing from you.

Alternate Mode Customer Service.

If you have any trouble with your trapKAT, feel free to give our Customer Service staff a call. Our staff is knowledgeable, patient, and glad to help. Our phone number is (413) 594-5190 - simply ask for "Customer Service". Feel free to call and tell us what was difficult to understand (so we can improve) or even tell us what you like (so we can feel good)!

If you need your trapKAT repaired or worked on for any reason, call our Customer Service staff and ask for an "RA" number. This is a "Return Authorization" number. You must then clearly mark this "RA" number on the outside of the box you send back to Alternate Mode. When you call in your RA, our staff will ask you for information like your name, address, phone number, serial number, purchase date, software version (power-up display), and a description of the problem. All of this information is put on an "RA form" that will be used when your instrument comes in to determine what to do to your instrument and whom to send it back to. If you do not mark a valid RA # on your box your shipment will be refused, so please call and get an RA # before you send in a surprise to us.

SHIPPING:

If you ever have to ship the trapKAT back in for a repair or an update, use care and good judgment. It is best to save the original packing material to make shipping easy and safe. If you do not have the original packing material, box the trapKAT in tight with packing noodles, paper, etc. so that it is not flopping around in the box during shipping.

Shipping expenses and proper packing of instruments shipped to Alternate Mode are the responsibility of the consumer.

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